In the Claims

Applicants have submitted a new complete claim set indicating marked-up claims with insertions and deletions indicated by underlining and strikeouts, respectively.

Please amend pending claim 1 as noted below.

Please delete claims 75 and 77 as noted below.

Please amend the claims as follows:

Claims pending after first amendment

1. (Curently Amended) A method for inhibiting cytoskeletal rearrangement in a lymphocyte, macrophage, or platelet ~~cell or cell fragment that comprises Fyb/SLAP and EnaVASP proteins that form a complex~~, comprising:

contacting the lymphocyte, macrophage, or platelet ~~cell or cell fragment~~ with an amount of a Fyb/SLAP complex inhibitor that binds Ena/VASP protein sufficient to inhibit the formation of a complex of an Ena/VASP protein and a Fyb/SLAP protein.

2. (Previously Amended) The method of claim 1, wherein the Fyb/SLAP complex inhibitor binds to the EVH1 domain of the Ena/VASP protein and inhibits binding of the Ena/VASP protein to a Fyb/SLAP protein.

3. (Cancelled)

4. (Original) The method of claim 2, wherein the Fyb/SLAP complex inhibitor comprises the peptide FPPPP (SEQ ID NO:15) or a peptide mimetic having an equivalent binding specificity.

5. (Cancelled)

6. (Withdrawn) The method of claim 1, wherein the Fyb/SLAP complex inhibitor binds a Fyb/SLAP protein and inhibits binding of an Ena/VASP protein to the Fyb/SLAP protein.

7-8. (Cancelled)

9. (Withdrawn) The method of claim 1, wherein the Fyb/SLAP complex inhibitor is an antisense nucleic acid molecule which inhibits the expression of a Fyb/SLAP protein or an Ena/VASP protein.

10-25. (Cancelled)

26. (Original) A method for inhibiting a T cell response to T cell receptor stimulation, comprising:

contacting a T cell with an amount of a Fyb/SLAP complex inhibitor sufficient to inhibit formation of a complex of a Fyb/SLAP protein and an Ena/VASP protein in the T cell.

27-29 (Cancelled)

30. (Original) The method of claim 26, wherein the Fyb/SLAP complex inhibitor binds to the EVH1 domain of the Ena/VASP protein and inhibits binding of the Ena/VASP protein to a Fyb/SLAP protein.

31-33. (Cancelled)

34. (Withdrawn) The method of claim 26, wherein the Fyb/SLAP complex inhibitor binds a Fyb/SLAP protein and inhibits binding of an Ena/VASP protein to the Fyb/SLAP protein.

35-38. (Cancelled)

39. (Original) A method for increasing platelet aggregation, comprising:

contacting a platelet with Fyb/SLAP complex inhibitor to inhibit formation of a complex of a Fyb/SLAP protein and an Ena/VASP protein in the platelet.

40-41. (Cancelled)

42. (Original) The method of claim 39, wherein the Fyb/SLAP complex inhibitor binds to the EVH1 domain of the the Ena/VASP protein and inhibits binding of the Ena/VASP protein to a Fyb/SLAP protein.

43-45. (Cancelled)

46. (Withdrawn) The method of claim 39, wherein the Fyb/SLAP complex inhibitor binds a Fyb/SLAP protein and inhibits binding of an Ena/VASP protein to the Fyb/SLAP protein.

47-72. (Cancelled)

73. (Previously Presented) The method of claim 2, wherein the Ena/VASP family protein is selected from the group consisting of Ena, Mena, VASP and Evl.

74. (Previously Presented) The method of claim 4, wherein the Fyb/SLAP complex inhibitor is selected from the group consisting of ActA repeats, EVH1 binding peptides, ScarWA, and dominant negative Fyb/SLAP fragments.

75. (Cancelled)

76. (Previously Presented) The method of claim 75, wherein the lymphocyte is a T cell.

77. (Cancelled)

78. (Previously Presented) The method of claim 30, wherein the Ena/VASP family protein is selected from the group consisting of Ena, Mena, VASP and Evl.

79. (Previously Presented) The method of claim 30, wherein the Fyb/SLAP complex inhibitor comprises the peptide FPPPP (SEQ ID NO:15) or a peptide mimetic having an equivalent binding specificity.

80. (Previously Presented) The method of claim 79, wherein the Fyb/SLAP complex inhibitor is selected from the group consisting of ActA repeats, EVH1 binding peptides, ScarWA, and dominant negative Fyb/SLAP fragments.

81. (Previously Presented) The method of claim 42, wherein the Ena/VASP family protein is selected from the group consisting of Ena, Mena, VASP and Evl.

82. (Previously Presented) The method of claim 42, wherein the Fyb/SLAP complex inhibitor comprises the peptide FPPPP (SEQ ID NO:15) or a peptide mimetic having an equivalent binding specificity.

83. (Previously Presented) The method of claim 82, wherein the Fyb/SLAP complex inhibitor is selected from the group consisting of ActA repeats, EVH1 binding peptides, ScarWA, and dominant negative Fyb/SLAP fragments.

84. (Withdrawn) The method of claim 39, wherein the Fyb/SLAP complex inhibitor binds a Fyb/SLAP protein and inhibits binding of an Ena/VASP protein to the Fyb/SLAP protein.

REMARKS

Claims 1, 2, 4, 26, 30, 39, 42, 73, 74, 76 and 78-83 are pending as claims 75 and 77 have been cancelled. Claim 1 has been amended to clarify the meaning of cell and cell fragment. Support for the amendment can be found at least at page 3, lines 1-10 and at page 10, lines 3-7. Claim 1 has also been amended to further clarify the class of Fyb/SLAP complex inhibitor molecules. Support for the amendment can be found at least at page 8, lines 18-19 and lines 29-30. No new matter has been added.

Rejections Under 35 U.S.C. §112, Second Paragraph

The Examiner rejected claims 1, 2, 4, and 73-77 under 35 U.S.C §112 as being indefinite for failing to particularly point out and distinctly claim the invention and asserts that the meaning of the term "cell" and "cell fragment" with regard to the claimed invention is unclear.

Applicants have amended claim 1 to include the characterization of a cell as a lymphocyte or macrophage and a cell fragment as a platelet. Applicants submit that the amendment obviates the rejection and respectfully request that the Examiner withdraw the rejection under 35 U.S.C. §112.

Rejections Under 35 U.S.C. §112, First Paragraph

Enablement

The Examiner rejected claims 1, 2, 4, 26, 30, 39, 42, and 73-83 as lacking enablement under 35 U.S.C. §112. The Examiner states that the specification is enabling for a method for inhibiting cytoskeletal rearrangement in a T cell or a platelet, a method for inhibiting a T cell response and a method for increasing platelet aggregation comprising contacting the T cell or platelet with an amount of a Fyb/SLAP complex inhibitor sufficient to inhibit the formation of a complex of an Ena/VASP protein and a Fyb/SLAP protein, but contends that the specification is not enabling for "any cell or cell fragment" as previously recited in claim 1. Applicants have amended claim 1 to clarify that the cell or cell fragment is a lymphocyte, macrophage, or platelet. Applicants respectfully submit that this amendment to claim 1 obviates this basis for the Examiner's rejection based on the scope of the claims.

The Examiner also contends that the specification is not enabling for "any Fyb/SLAP inhibitor." The Examiner states that "Applicant is relying upon certain biological activities and the disclosure of a single species to support a genus and that to satisfy the U.S.C. §112, first paragraph, the specification has to teach how to make and/or use the invention." Applicants respectfully point out that the claimed invention is a method of using a Fyb/SLAP complex inhibitor to inhibit cytoskeletal rearrangement in a lymphocyte, macrophage, or platelet and submit that sufficient teaching is provided in specification to enable the claimed methods. Moreover, Applicants have disclosed numerous species of inhibitors, not a "single species", as is more fully disclosed below.

The disclosure by Applicants, that Fyb/SLAP complex inhibitor molecules inhibit cytoskeletal rearrangement, allows one of ordinary skill in the art to practice the invention as claimed. The fact that various Fyb/SLAP complex inhibitor molecules can be used in the claimed invention does not mean that the claimed methods are not enabled. To the contrary, a molecule that is a Fyb/SLAP complex inhibitor will, by definition, inhibit formation of a complex of an Ena/VASP protein and a Fyb/SLAP protein, regardless of its structure or mode of action, and contacting a lymphocyte, macrophage, or platelet with such a complex inhibitor will thereby inhibit cytoskeletal rearrangement. Because any suitable Fyb/SLAP complex inhibitor can be used in the claimed methods, the claims should not be limited with respect to the Fyb/SLAP complex inhibitor used in the methods.

Applicants respectfully contend that it is not necessary for Applicants to describe each and every Fyb/SLAP complex inhibitor to enable the claimed methods and that the disclosure of representative species, along with the knowledge of one skilled in the art, is sufficient to enable the invention throughout its scope. Nevertheless, Applicants note that a number of inhibitors were described in the application (see page 8, line 18 through page 9 line 6). In particular, Applicants described that a preferred inhibitor comprises SEQ ID NO:5 (FPPPP). Examples of additional inhibitors were also provided: Act A repeats, EVH1 binding peptides, ScarWA, and dominant negative Fyb/SLAP fragments. Preferred inhibitors expressly recited by Applicants include molecules having at least one acidic amino acid on one or both sides of the FPPPP sequence, and "reverse change variants" having at least one basic amino acid on one or both sides of the FPPPP sequence. Additional inhibitors include EVH1 domain containing proteins,

Ena/VASP fragments, and antibodies or antibody fragments that bind Ena/VASP protein. The person of skill in the art is familiar with each of these known molecules. Applicants also provided inhibitors that are mimetics for the FPPPP peptide, i.e., they compete with FPPPP for binding to the EVH1 domain.

Given the guidance presented in the specification, one of ordinary skill in the art can use a variety of Fyb/SLAP complex inhibitors in the methods of the invention. Additionally, using the assays provided in the specification, one of ordinary skill in the art can utilize routine procedures to examine any Fyb/SLAP complex inhibitor to determine particular characteristics such as the amount necessary to inhibit formation of a complex of an Ena/VASP protein and a Fyb/SLAP protein. Thus, Applicants have provided all the guidance necessary for one of ordinary skill to practice the claimed methods of inhibiting cytoskeletal rearrangement. There is no undue experimentation necessary.

Accordingly, in view of the claim amendments and reasoned statements provided above, Applicants submit that they have enabled the claims throughout their scope and respectfully request that the Examiner withdraw the rejection of claims 1, 2, 4, 26, 30, 39, 42, and 73-83 under 35 U.S.C. §112, first paragraph.

Written Description

The Examiner rejected claims 1, 2, 4, 26, 30, 39, 42, and 73-83 under 35 U.S.C. §112, first paragraph as lacking adequate description. Applicants have amended claim 1, as described above, and believe this clarifies that Applicants were in possession of the claimed methods.

The basic requirement of the written description requirement is that the claimed invention must be described clearly enough to allow one of ordinary skill in the art to recognize that the inventors invented the claimed invention. Vas-Cath v. Mahurkar 935 F.2d 1555, 19 USPQ2d 1111 (Fed. Cir. 1991); Lockwood v. American Airlines, Inc. 107 F.3d 1565, 41 USPQ2d 1961 (Fed. Cir. 1997); In re Gosteli 872 F.2d 1008, 10 USPQ 2d 1614 (Fed. Cir. 1989). The requirement is based on the knowledge of the skilled artisan in the particular art: the applicant must convey to one of ordinary skill in the art through the disclosure in the invention that the applicant was in possession of the claimed invention.

The Examiner asserts that Applicant has not provided sufficient information regarding the

identity of Fyb/SLAP complex inhibitors, inhibitors that bind to the EVH1 domain or peptide mimetics other than the proline-rich peptide FPPPP (SEQ ID NO:15). Applicants submit, as described above, that numerous examples of known Fyb/SLAP complex inhibitors are provided in the specification and that the disclosure of these examples is clear evidence that contradicts the Examiner's conclusion. Applicants respectfully submit that even though the claimed invention is not the compounds but rather the use of the compounds in the claimed methods, the specification still provides numerous examples of known molecules that Applicants have identified as useful in the claimed methods. Applicants also respectfully point out that these are known molecules, and that Applicants have simply provided examples of species of a genus, the members of which are useful in the claimed methods.

The Examiner states in Paragraph 9 of the Office communication mailed February 12, 2003, that "the invention, which is drawn to a genus may be adequately described if there is a (1) sufficient description of a representative number of species, or (2) by disclosure of relevant, identifying characteristics sufficient to describe the claimed invention in such full, clear, concise and exact terms that a skilled artisan would recognize application was in possession of the claimed invention." Applicants assert that the skilled artisan would clearly recognize from the specification and Examples that Applicants were in possession of the claimed invention, which is a method of using agents that are Fyb/SLAP complex inhibitors. Although Applicants do provide numerous examples of Fyb/SLAP complex inhibitors in the specification, Applicants contend that because the claimed invention relates to the use of such agents, and is not a claim to the agents themselves, Applicants need not describe or further identify additional members of the universe of Fyb/SLAP complex inhibitors, but only must adequately describe the claimed methods in such a way as to allow one of ordinary skill in the art to recognize that Applicants were in possession of the claimed methods at the time of filing.

Applicants respectfully submit that a skilled artisan would be able to recognize that Applicants were in possession of the claimed methods at the time of filing. Applicants respectfully request that the Examiner withdraw the rejection of claims 1, 2, 4, 26, 30, 39, 42, and 73-83 under 35 U.S.C. §112.

In view of the foregoing, Applicants respectfully request that the Examiner withdraw the

rejections and act favorably upon the claims. If the Examiner requires clarification for any aspect of this response, or if prosecution can be expedited for any other reason, Applicants respectfully request that the Examiner contact the undersigned by telephone.

Respectfully submitted,

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